

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

Completed by: Ben Markin

GENERAL INFORMATION:

Name:	Louisville Gas and Electric Company
Address:	220 West Main Street, Louisville, Kentucky 40232
Date application received:	November 29, 2004
SIC/Source description:	Electric Services
Source ID #:	021-223-00002
Source A.I. #:	4054
Activity #:	APE20040004
Permit number:	V-02-043 Revision 1

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
__ Administrative	<input checked="" type="checkbox"/> Title V
__ x Minor	<input type="checkbox"/> Synthetic minor
__ Significant	<input checked="" type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input checked="" type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input checked="" type="checkbox"/> NSPS	<input type="checkbox"/> SIP
<input checked="" type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:017, 1(23)(b) or 51:052,1(14)(b)	

MISCELLANEOUS:

- ☒ Acid rain source
- ☒ Source subject to 112(r)
- ☐ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☒ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☐ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Potential (tpy)
PM	541.5	3158
PM ₁₀	141.7	3158
SO ₂	7726	1333.7
NO _x	*5556	11336
CO	364.6	1285.1
VOC	43.7	136.8
LEAD	0	0.73
HF	13.7	19
HCl	110	154

*Voluntary limits taken by permittee to ensure creditable net emissions reduction [401 KAR 51:001, Section 1, (146)], on any consecutive twelve-month total of nitrogen oxide emissions shall not exceed 5556 tons per year

CHANGES TO PERMIT (REVISION 1): -MINOR MODIFICATION

Louisville Gas & Electric Company submitted to the Division two minor revision applications on November 29, 2004 and December 21, 2004. The initial application was for a voluntary creditable decrease in emissions for the permitted emission unit 01, a 5333 mmBtu/hr, pulverized coal fired boiler installed in 1990. The creditable decrease in emissions will be 1485 tons per year of nitrogen oxide. This permit will limit the twelve (12) month rolling total for nitrogen oxides (NO_x) on the unit to 5556 tons per year. The credible reduction is requested by the facility to net against future potential increase from the construction of an additional utility boiler. The practically enforceable creditable reduction is being done in accordance with the recently revised new source review (NSR) rules. [401 KAR 51:001 and 401 KAR 51:017] Compliance with the emissions limit shall be demonstrated using continuous emission monitoring equipment and procedures required by 401 KAR 52:060 (acid rain program). The annual limit for NO_x will be based on 0.45 lb/mmBtu established from the acid rain program for the existing boiler, instead of the permitted BACT allowable limit of 0.7 lb/mmBtu, with the installed selective catalytic reduction (SCR) unit.

Emission Unit 01- Emission Limitations:

Pursuant to 401 KAR 51:001, Section 1, (146), source has accepted a voluntary limit such that consecutive twelve month rolling total of nitrogen oxide emissions shall not exceed 5556 tons per year, which through this permit is enforceable as a practical matter.

Compliance with nitrogen oxide emissions:

Permittee shall monitor and calculate emissions on a consecutive twelve month rolling total as measured by the continuous emissions monitor (CEM) required pursuant to 40 CFR 75.

The second application is for the proposed usage of two or three dry bulk trailers with tractors to transport the fly ash from the existing fly ash silo emission point 19 (2E and 2F) at the facility. The vehicle miles traveled (VMT) area assumed to neither decrease nor increase in the disposal process. The proposed trailers are capable of unloading into a barge in forty to sixty minutes; while offloading can occur at a rate of twenty five to thirty five minutes. The fly ash will be discharged from the trailer through a cyclonic material handler, and flow by gravity into the barge. The airflow from the material handler will pass through a baghouse. With an hourly throughput rate of 35 ton trailer loads from the trans loading operations, the allowable PM emission rate is 34.16 lb/hr however, the potential to emit from the process with the collector will be 0.17 lb/hr, and 0.10 lb/hr from the drop loading controlled by an extendable chute for particulate matter (PM/PM10). In order to meet the prevention of significant deterioration (PSD) requirements, the permittee requests that the allowable rate for combined process should be limited to 0.027 lb/hr and 1.20 tons per year of PM/PM10 for the trailers transporting the fly ash. 401 KAR 59:010 is applicable to the proposed units however, the total particulate emissions from the units is below the five tons per, therefore the units will be considered as insignificant, and will be added to the list in the permit.

PAST PERMITTING ACTION:

Louisville Gas & Electric Company is an existing source with coal fired and natural gas fired peaking units for electricity generation in Trimble County, Kentucky. The source has a draft Title V permit issued in 1997, which has undergone public/U.S.EPA review (12-18-1997) however, the final permit was not issued. An acid rain permit, which underwent public review (12-24-98), was issued for the boiler with NO_x averaging and SO₂ allowances in 1996 (AR-96-007); and revised NO_x averaging and SO₂ allowances permit issued on March 5, 1999 (A-98-011). In addition, the source submitted a permit application to construct and operate a natural gas fired peaking units, which were granted a PSD permit on June 22, 2001, after public/U.S.EPA review (5-17-2001). A Phase II acid rain application for the combustion turbines (CTs) received on June 12, 2001 has not been drafted or issued. Other than the new acid rain application for the combustion turbines, all three permit applications were called administratively complete on 12-12-1996 (draft TV permit), 12-24-1998 (first Title IV permit), and 01-14-01 (PSD permit) respectively.

The Division has decided to issue a source-wide proposed permit to incorporate the draft TV, PSD, existing acid rain permit for unit 1 and a Phase II draft permit for the CTs. The reason being that new CT units have no SO₂ allowances, which are yet to be purchased on the market. The acid rain section will be divided into two; the permitted unit one (1), with allowances and NO_x limits will be the initial part and while the second part addresses the CT's (units 25-30) with a draft watermark to indicate that this portion has not been reviewed by the public. The significant change for the entire permit is to give it a new permit number, which will affect the issuance date for the permitted acid rain for unit 1. Given the history above, the proposed permit with the number V-02-043, will consolidate the authority of any previously issued preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source. For continuity, the most current log number and the completeness dates will be used as general numbers for this permit.

EMISSION AND OPERATING CAPS DESCRIPTION:

NA

OPERATIONAL FLEXIBILITY:

NA